

# The Impact Of Dividend Announcement On Share Price Behaviour In Ghana

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## ABSTRACT

*The Efficient Market Hypothesis (EMH) provides that security prices reflect all available information. However, despite dividend announcements made in 2005, three companies selected for study performed badly on Ghana Stock Exchange (GSE). The problem of the study was therefore to establish whether the GSE did not recognize company-specific information in pricing shares. The purpose of the study was to ascertain whether there was an instantaneous reaction of the companies' share prices to dividend announcement in order to provide the basis for confirming or dispelling the EMH conclusions as far as the Ghana Stock Exchange was concerned. The event study methodology was used to achieve the research objective. Additionally, the Wilcoxon Matched-Pair signed-Ranked Test was employed in testing the null hypothesis. The major finding was that the GSE was not semi-strong efficient resulting in the conclusion that the GSE must address itself to three forms of efficiency – operational efficiency, allocation efficiency and pricing efficiency.*

**Keywords:** Dividend, announcement, share price, behaviour

## I. INTRODUCTION

### Background of the Study

The market price of a security is its price on the Stock Exchange's trading market. The speed with which the market reacts to new knowledge about the company is a measure of the efficiency of its pricing process. This process is likely to be enhanced if market participants have unimpeded and costless access to all relevant information about the company's prospects and if high transaction costs do not constitute barriers to trading on the stock exchange.

The investor, whether institutional or individual may wish to take a decision about whether to buy shares in a company, to sell all or part of any existing holding, or to add to his existing holding. The 'dividend valuation model' ( $V_0 = D_0 / (k - g)$ ) is usually used to produce an estimate of the company's value where  $V_0$  is the value of the company,  $D_0$ , represents the dividend per share,  $k$  is the cost of equity and  $g$  stands for dividend growth rate. A comparison of this value with the current price of the share will provide the investor with a buy, sell, or hold decision.

### Statement of the Problem

In "The State of the Ghanaian Economy in 2005" the Institute of Statistical, Social and Economic Research (ISSER, 2006) reported that in contrast to most stock markets at the global level, the performance of the Ghana Stock Exchange (GSE) was not impressive in 2005. From being at one time the best performer in the developing world, the GSE had moved down to sixteenth position by end of September, 2005. The market traded 21.99 percent less in volume in 2005 than in 2004 with the GSE all-share index down by 29.85 percent at the end of December 2005.

With little or no study undertaken in the context of the EMH to explain factors accounting for the poor performance of the GSE, there is the need to study the impact of dividend announcement on the stock market price movement.

## **Objective of the Study**

The objective of the study was to establish whether there is any statistically significant instantaneous increase in share price resulting from dividend announcement to support conclusion that the GSE was semi-strong efficient.

## **Hypothesis**

**Ho:** Dividend change does not have any statistically significant impact on share price behaviour. Any abnormal returns associated with dividend announcement are therefore the result of chance.

**H1:** Dividend changes have statistically significant impact on share price behaviour. Any abnormal returns associated with dividend announcement are not the result of random factors.

## **II. LITERATURE REVIEW**

### **The Efficient Market Hypothesis**

Fama (1965a) studied the proportionate daily price change of the thirty shares comprising the Dow Jones industrial average between 1957 and 1962. He found that there was no significant serial correlation (relationship over time) among the price changes. To ensure that the low levels of correlation found were not biased by a small number of extreme observations, Fama looked at the signs of the price changes (plus or minus) rather than the size, to see if runs of one sign tended to persist. If they did, then this would imply a trend, and the randomness of the data would be in doubt. Overall, the departure from randomness was very small, and thus a piece of evidence was added in support of the random-walk hypothesis.

### **EMH – Some Evidence in Favour of the Semi-strong Form**

Changes in dividends provided another ‘event’ which had been studied by Pettit (1972) and Watts (1973), who both measured the market reaction to dividend announcements. Neither study found evidence that a company’s dividend announcement affected the company’s share price after the announcement, which again supported the EMH view of price behaviour.

In the UK, Firth (1977a) studied capitalization issues made by listed companies in 1973 and 1974, and concluded that capitalization issues had no impact, in themselves, on share prices. Firth (1974) also conducted other tests on capitalization issues, which were confirmed by his 1977 findings. His research findings in 1975 on large investment holdings being built by a company, take-overs, earnings announcements and capitalization issues, all gave supportive evidence to the semi-strong efficiency of the British stock markets.

### **Evidence against EMH and Alternate Theories of Market Behaviour**

#### **Market Anomalies**

The EMH became controversial after the detection of certain anomalies in the capital markets. Some of the main anomalies are as follows:

1. The January Effect: Rozeff and Kinney (1976), Bhardwaj and Brooks (1992) for 1977 – 1986 and Eleswarapu and Reinganum (1993) 1961 – 1990.
2. Price/Earning (P/E) Ratio Effect: Sanjoy Basu (1977), Campbell and Shiller (1988b)
3. The Mean Reversion (Overreaction) Hypothesis: Debondt and Thaler (1985, 1987), (Bernard, 1993), (Russell and Torbey, 2002).
4. Pricing of Closed – End Funds: (Russell and Torbey, (2002), Malkiel (1977)
5. The Distressed Securities Market: Ma and Weed, (1986),
6. The Weather: Saunders (1993) Hirshleiter and Shumway (2001)

### III. METHODOLOGY

#### Method of the Study

The main methodology for this study was event studies. According to Bodie, et al, (1999), an event study describes a technique of empirical financial research that enables an observer to assess the impact of a particular event on a firm's stock price. An event study would quantify the relationship between firm-specific event, like dividend announcement and stock returns.

#### The Standard Market Model

The standard market model used as a basis for estimating the normal rate of return on a security is specified as follows:  $R_{it} = \alpha_i + \beta_i R_{mt} + U_{it}$  (1.1)

Where  $R_{it}$  = rate of return on security  $i$  in period  $t$

$R_{mt}$  = rate of return on the market index in period  $t$

$\alpha_i$  = constant in regression equation (called alpha)

$\beta_i$  = slope of regression equation (i.e., beta value of security)

$U_{it}$  = disturbance term (abnormal return).

Factors which affect the whole market are captured by  $R_{mt}$ . The remaining (that is the abnormal) return is attributed to company – specific factors such as public release of information relating to the company. Abnormal returns,  $U_{it}$ , on security  $i$  could be measured by:  $U_{it} = R_{it} - \alpha_i - \beta_i R_{mt}$  (1.2)

#### Event Time

The tests involved estimating and examining abnormal returns for each of the three companies for 12 months before the event and for 6 months after the event. Each announcement date in the sample was labelled time zero; points in time after the announcements were labelled +1, +2, +3..., +6. At each point in event time, the company abnormal returns and the average abnormal returns across companies were calculated. The average abnormal returns were cumulatively summed up over the event time and presented on a graph.

#### Wilcoxon Signed-Ranked Test.

The Wilcoxon signed – ranked test was used to analyze possible significant differences in the abnormal returns and dividend changes with 5 percent significant level to accept the semi – strong version of the EMH. The Wilcoxon matched – pairs signed – ranked test, tested the null hypothesis that the dividend change did not have statistically significant effect on abnormal returns against the alternative hypothesis that the dividend changes did have significant impact on the abnormal returns.

Three companies out of the four that performed badly on the GSE in 2005 formed the focus of the study. They are:

1. Aluworks (ALW) Limited
2. British American Tobacco Limited
3. SG-SSB Limited

To achieve the objective of the study, company data comprising dividend announcement dates, share prices and the GSE All-share index for the period January 2003 to December 2005 were collected for analysis.

#### **IV. DATA ANALYSIS, MAIN FINDINGS AND DISCUSSION**

##### **Dividend Disbursement Process**

The analysis would be preceded by a brief summary of how dividends were paid by the three companies under study: The first date was the dividend announcement date. The amount of dividends and the time they would be paid were made public on this date through press releases. The second date was the ex-dividend date. This followed the dividend declaration date by about two weeks. It was specifically stated in the press releases that an investor purchasing shares before this date would be entitled to the final dividend. However, an investor buying shares on or after the ex-dividend date would not be entitled to the final dividend. The third date was the record date or the closure of register. Again, from an accounting perspective, to receive a dividend, one had to be a shareholder on the companies' register of shareholders as of the closure of register date.

This normally followed the ex-dividend day by seven business days. Hence, to be a shareholder of record as of the closure of register date, one had to buy the share seven business days earlier' and pay for the share. The final date associated with dividends was the payment date. This was the date cheques were actually mailed out from the company. This date followed the closure of register date by about three weeks. The Press releases were made on GSE letterheads and assigned reference numbers. Copies were distributed as follows:

1. All Licensed Dealing Members (LDMs)
2. General Public
3. Company Secretary
4. Company Registrar
5. Securities Exchange Commission (SEC)
6. GSE Council Members
7. GSE Notice Board.

##### **Monthly Stock and Market Returns**

Table1 depicts the computation of the stock returns and the market return based on the share prices of the three companies and the GSE All-Share index respectively. The return of an investment is measured as the total gain or loss experienced on behalf of its owners over a given period of time. It is commonly stated as the change in the assets value (capital gain or loss) plus any cash distributions (dividends or interest payments) expressed as a percentage of the beginning-of-period investment.

The expression for calculating the rate of return ( $R_{it}$ ) actually realized on stocks  $i$ , over period  $t$ , is defined as:

$$R_{it} = \frac{P_{it} - 1 + C_{it}}{P_{it} - 1}$$

Where  $P_{it}$  = price of stock  $i$  at the end of period  $t$

$P_{it} - 1$  = price of stock  $i$  at the beginning of period  $t$ .

$C_{it}$  = cash flow received from stock  $i$  during period  $t$ .

## COMPUTATION OF THE MONTHLY STOCK AND MARKET RETURNS

Table 1. Monthly Stock And Market Returns

	ALW	GSE	BAT	SG-SSB
Jan.-03	.00	2.87	9.80	4.67
February	-5.40	3.93	.18	1.52
March	22.60	10.24	.00	43.68
April	-6.98	7.47	27.04	13.11
May	.00	5.58	28.57	5.11
June	.00	11.78	6.28	1.39
July	.00	10.87	.58	.32
August	.00	9.52	7.12	6.69
September	.00	4.25	31.10	29.27
October	.00	9.67	7.40	58.42
November	.00	13.86	6.79	31.25
December	13.00	7.65	74.54	4.00
Jan-04	.00	6.88	17.31	-9.52
February	.00	21.98	1.64	15.79
March	.00	22.27	11.29	18.19
April	125.00	15.51	11.59	13.84
May	38.90	4.72	1.32	4.89
June	.00	2.81	.00	2.26
July	-1.60	1.12	.03	-.01
August	-1.60	2.69	.00	-2.36
September	-17.40	4.35	.00	-12.90
October	.00	-.93	-1.28	.00
November	.00	2.68	.00	.00
December	.00	-.76	5.30	3.00
Jan-05	4.50	1.78	-22.08	.00
February	-37.53	-2.21	-25.00	.00
March	.03	-4.21	.00	-7.41
April	.00	-5.36	.00	.00
May	.00	-.95	.00	.00
June	-20.30	-3.10	-11.11	-50.00
July	.00	-14.38	.00	40.00
August	.00	-3.53	-12.50	4.87
September	.00	.74	-14.29	.00
October	.00	.34	10.00	.00
November	-.18	-2.08	-7.58	-8.46
December	10.11	.50	9.00	6.00

## Regression Analysis (Company Alpha and Beta Values)

The result of the linear regression analysis of the monthly stock and market returns data in table 1 using Statistical Package for the Social Sciences (SPSS) is displayed in table 2.

**ALW ALPHA AND BETA VALUES****Table 2. Aluworks Alpha And Beta Values  
Model Summary****Regression Analysis 1**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.338(a)	.114	.088	22.66681

Predictors: (Constant), MARKET

Discussion: The GSE-All Share index (market) explains 11.4 per cent change in the Aluworks stock return.

**Regression Analysis 2 ANOVA (b)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2256.879	1	2256.879	4.393	.044(a)
	Residual	17468.662	34	513.784		
	Total	19725.541	35			

a. Predictors: (Constant), MARKET

b. Dependent Variable: ALW

Discussion: Since the above 4.4 per cent significant level is not more than 5 per cent p-value the 11.4 per cent change in Aluwork's stock return explained by the market is significant and cannot be attributed to chance.

**Regression Analysis 3**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.503	4.216		-.119	.906
	MARKET	1.050	.501	.338	2.096	.044

a. Dependent Variable: ALW

The alpha and beta values for Aluworks are -.503 and 1.05 respectively. Since the alpha value is 90.6 per cent and well above the 5 percent p-value it is insignificant in explaining any change in Aluworks stock return. The beta value of 1.05 is however significant with 4.4 per cent significant level which falls below the p-value of 5 per cent.

**BAT ALPHA AND BETA VALUES****Table 3. Alpha And Beta Values Of BAT  
Model Summary****Regression Analysis 1**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.323	.104	.078	16.19613

a. Predictors: (Constant), MARKET

The GSE All-Share index accounts for 10.4 per cent change in the BAT's stock return.

**ANOVA (b)****Regression Analysis 2**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1038.245	1	1038.245	3.958	.055(a)
	Residual	8918.702	34	262.315		
	Total	9956.947	35			

a. Predictors: (Constant), MARKET

b. Dependent Variable: BAT

The above analysis of variance (ANOVA) confirms that 10.4 percent of BAT's stock return is explained by the market at 5.5% significant level which approximates the p-value of 5 per cent.

**Regression Analysis 3**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.145	3.013		.712	.481
	MARKET	.712	.358	.323	1.989	.055

a. Dependent Variable: BAT

The alpha and beta values for BAT are 2.15 and 0.71 respectively. With 48.1 per cent, which is far above the p-value of 5 per cent, BAT's alpha value is insignificant in determining its stock return. The 5.5 percent beta value which approximates the 5 per cent p-value is however significant.

**SG-SSB ALPHA AND BETA VALUES**

**Table 4. SG-SSB Alpha And Beta Values  
Model Summary**

**Regression Analysis 1**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.610(a)	.373	.354	15.04697

a. Predictors: (Constant), MARKET

The market explains 37.3 per cent of SG-SSB's stock return

**ANOVA (b)****Regression Analysis 2**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4573.603	1	4573.603	20.200	.000(a)
	Residual	7697.984	34	226.411		
	Total	12271.586	35			

a. Predictors: (Constant), MARKET

b. Dependent Variable: SGSSB

This analysis showing zero per cent significant level which is far below the 5 per cent p-value confirms the significant influence of the market in determining the stock return.

**Regression Analysis 3**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.764	2.799		-.630	.533
	MARKET	1.495	.333	.610	4.494	.000

a. Dependent Variable: SGSSB

The SG-SSB has an alpha and beta values of -1.76 and 1.50 respectively. The alpha value of -1.76 is insignificant at 53 per cent compared to the p-value of 5 per cent. At zero per cent significant level its overwhelming influence in determining the SG-SSB stock return in relation to the 5 per cent p-value.

The companies' alpha ( $\alpha$ ) and beta ( $\beta$ ) values facilitate the computation of the abnormal returns. The alpha and beta values for the respective companies are shown below:

	ALW	BAT	SG-SSB
Alpha value	-.503	2.145	-1.764
Beta value	1.050	.712	1.495

Alpha is the non-market related component of a security's abnormal return. It can either be positive or negative. Alpha has nothing to do with the rise and fall of the market. Beta measures the sensitivity of a portfolio, or a particular security to general market movements. Aluworks beta value of 1.05 means that a 1% increase or decrease in the market return will lead to a 1.05 increase or decrease in Aluwork's stock return. The same explanation holds for BAT and SG-SSB.

Tables 5, 6 and 7 display the computation of the abnormal returns for the three companies Aluworks (ALW), British American Tobacco (BAT) and SG-SSB using the standard market model formula disclosed in the methodology under section 3.

#### ALW - COMPUTATION OF ABNORMAL RETURNS

**Table 5. ALW Abnormal Returns**

Months	R	A	$\beta$	Rm	U
APRIL'04	39.89	-0.50	1.05	15.51	24.10
MAY	0.00	-0.50	1.05	4.72	-4.46
JUNE	-1.63	-0.50	1.05	2.81	-4.08
JULY	-1.63	-0.50	1.05	1.12	-2.31
AUG	-17.36	-0.50	1.05	2.69	-19.68
SEPT	0.00	-0.50	1.05	-4.35	5.07
OCT	0.00	-0.50	1.05	-0.93	1.48
NOV	0.00	-0.50	1.05	-2.68	3.31
DEC	4.50	-0.50	1.05	-0.76	5.80
JAN '05	0.00	-0.50	1.05	1.78	-1.37
FEB	-37.50	-0.50	1.05	-2.21	-34.68
MAR	0.03	-0.50	1.05	-4.21	4.95
APRIL	0.00	-0.50	1.05	-5.36	6.13
MAY	0.00	-0.50	1.05	-0.95	1.50
JUNE	-20.03	-0.50	1.05	-3.10	-16.28
JULY	0.00	-0.50	1.05	-14.38	15.60
AUG	0.00	-0.50	1.05	-3.53	4.21
SEPT	0.00	-0.50	1.05	0.74	-0.28
OCT	0.00	-0.50	1.05	0.34	0.14

#### BAT - COMPUTATION OF ABNORMAL RETURNS

**Table 6. BAT ABNORMAL RETURNS**

Months	R	A	$\beta$	Rm	U
JAN '04	17.31	2.14	0.71	6.88	10.29
FEB	1.64	2.14	0.71	21.98	-16.11
MAR	11.29	2.14	0.71	22.27	-6.66
APR	11.59	2.14	0.71	15.51	-1.56
MAY	1.32	2.14	0.71	4.72	-4.17
JUNE	0.00	2.14	0.71	2.81	-4.14
JUL	-0.03	2.14	0.71	1.12	-2.97
AUG	0.00	2.14	0.71	2.69	-4.05
SEPT	0.00	2.14	0.71	-4.35	0.95
OCT	-1.28	2.14	0.71	-0.93	-2.76
NOV	0.00	2.14	0.71	-2.68	-0.24
DEC	5.30	2.14	0.71	-0.76	3.70
JAN '05	-22.08	2.14	0.71	1.78	-25.48
FEB	-25.00	2.14	0.71	-2.21	-25.57
MAR	0.00	2.14	0.71	-4.21	0.85
APR	0.00	2.14	0.71	-5.36	1.67
MAY	0.00	2.14	0.71	-0.95	-1.47
JUNE	-11.11	2.14	0.71	-3.10	-11.05
JULY	0.00	2.14	0.71	-14.38	8.07



## SG-SSB - COMPUTATION OF ABNORMAL RETURNS

Table 7. SG- SSB ABNORMAL RETURNS

Months	R	A	$\beta$	Rm	U
MAR '04	18.19	-1.70	1.49	22.27	-13.29
APR	13.84	-1.70	1.49	15.51	-7.57
MAY	4.89	-1.70	1.49	4.72	-0.44
JUN	2.26	-1.70	1.49	2.81	-0.23
JUL	-0.01	-1.70	1.49	1.12	0.02
AUG	-2.36	-1.70	1.49	2.69	-4.67
SEPT	-12.90	-1.70	1.49	-4.35	-4.72
OCT	0.00	-1.70	1.49	-0.93	3.09
NOV	0.00	-1.70	1.49	-2.68	5.69
DEC	3.00	-1.70	1.49	-0.76	5.83
JAN '05	0.00	-1.70	1.49	1.78	-0.95
FEB	0.00	-1.70	1.49	-2.21	4.99
MAR	-7.41	-1.70	1.49	-4.21	0.56
APR	0.00	-1.70	1.49	-5.36	9.69
MAY	0.00	-1.70	1.49	-0.95	3.12
JUN	-50.00	-1.70	1.49	-3.10	-43.68
JUL	-40.00	-1.70	1.49	-14.38	-16.87
AUG	4.87	-1.70	1.49	-3.53	11.83
SEPT	0.00	-1.70	1.49	0.74	0.60

## CUMULATIVE AVERAGE ABNORMAL RETURNS

The cumulative average abnormal return has been aligned with the 12 months preceding the dividend announcement date (0) and 6 months following the event in Table 8.

Table 8. Companies Cumulative Average Abnormal Returns

Month relative to announcement date	ALW	BAT	SGSSB	Average	Cumulative Average
	%	%	%	%	%
-12	24.10	10.28	-13.29	7.03	7.03
-11	-4.46	-16.11	-7.57	-9.38	-2.35
-10	-4.08	-16.66	-0.44	-7.06	-9.41
-9	-2.31	-1.56	-0.23	-1.37	-10.78
-8	-19.68	-4.17	0.02	-7.94	-18.72
-7	5.07	-4.14	-4.67	-1.25	-19.97
-6	1.48	-2.97	-4.72	-2.07	-22.04
-5	3.31	-4.05	3.09	0.78	-21.25
-4	5.80	0.95	5.69	4.15	-17.11
-3	-1.37	-2.76	5.83	0.57	-16.54
-2	-34.68	-0.24	-0.95	-11.96	-28.50
-1	4.95	3.70	4.99	4.55	-23.95
0	6.13	-25.48	0.56	-6.26	-30.21
1	1.50	-25.57	9.69	-4.79	-35.01
2	-16.28	0.85	3.12	-4.10	-39.11
3	15.60	1.67	-43.68	-8.80	-47.91
4	4.21	-1.47	-16.87	-4.71	-52.62
5	-0.28	-11.05	11.83	0.17	-52.46
6	0.14	8.07	0.60	2.94	-49.52

The three companies announced dividends at different dates. For the financial year ended 31 December 2004, ALW announced on 12 April 2005 a final dividend of €300 per share through press release No. 065/2005. SG-SSB also announced a final dividend of €900 for the same financial year via press release No 042/2005 on 9 March 2005. However, for the same period, BAT announced a 2nd interim dividend of €86 per share on 6 January 2005 by press release No 002/2005.

## SUMMARY OF FINDINGS

Despite the dividend announcements, abnormal returns for the three companies averaged -6.26 per cent. In an efficient market dividends which were higher than expected were characterized by a preponderance of high positive abnormal returns at the event time zero. The abnormal returns table however did not exhibit this trend confirming the null hypothesis that dividend announcement did not have any impact on share price behaviour.

Following the dividend announcement, it was expected that the average abnormal return would be close to zero without exhibiting any detectable trend to conform to the requirement of market efficiency. In an efficient market there was an instantaneous reaction at the announcement date to the unanticipated component of the information and no subsequent drift in the average abnormal returns was expected. On the contrary, the table exhibited a discernible pattern where the average abnormal return instead of getting closer to zero after the announcement date rather increased from -6.26 per cent to 2.49 per cent at event time +6.

## Wilcoxon test used to test hypothesis

**Table 9. Wilcoxon Matched-Pairs Signed –Ranks Test**

A	B	D	IDI	RIDI	SR
-2.07	6.26	-8.33	8.33	5	-5
0.78	-4.79	5.57	5.57	2	2
4.15	-4.10	8.25	8.25	4	4
0.57	-8.80	9.37	9.37	6	6
-11.96	-4.71	-7.25	7.25	3	-3
-4.55	0.17	-4.72	4.72	1	-1

'A' represents average abnormal returns six month before dividend announcement date.

'B' represents average abnormal returns six month after dividend announcement date.

'D' represents the difference score within each pair ('A' and 'B').

'IDI' represents the absolute or positive numbers of 'D'.

'RIDI' represents the ranking of the absolute values.

'SR' represents ranking attached to the respective signs.

The signed ranks are the basis for the statistical test. The reasoning is that if the null hypothesis, ( $H_0$ ), is true, and there is no difference between the population distributions, positive and negative difference score are expected to occur about equally often and to be about the same size in most pairs of samples. Therefore, the sum of the positive signed ranks is expected to be approximately equal to the sum of the negative signed ranks. If the difference between the sum of the positive and the sum of the negative signed ranks is so large that the probability is less than  $\alpha$ ,  $H_0$  is rejected resulting in the conclusion that the two populations are not identical.

## Analysis of data in Table 9

Sum of positive signed ranks  $(2+4+6)=12$  and sum of negative signed ranks  $(5+3+1)=9$ . The test statistics in the Wilcoxon test,  $W$ , was the smaller of the two sums,  $W=9$ . Because we were equally interested in the significance of the impact of dividend announcement on share price behaviour before and after the event, a two-tailed (non-directional) test was called for. For a non-directional test with  $\alpha$  (alpha) = 0.05 and 'n' (number of observations) = 6, the critical values of  $W$  in the Wilcoxon-Pairs Signed-Ranks test was 0 (zero). The critical values of the Wilcoxon test are attached to this paper as appendix 3. Only values of  $W \leq 0$  were significant at the 0.05 level. Since the calculated  $W$ , 9 was greater than the critical value of 0, the calculated  $W$  was not significant. We could not conclude that dividend announcement had an impact on share price behaviour.

## V. CONCLUSION AND RECOMMENDATIONS

### CONCLUSION

The topic under study – the impact of dividend announcement on share price behaviour- sought to establish the degree of efficiency of the GSE in impounding relevant information in share prices. If the GSE was semi-strong efficient all publicly available information would be already incorporated into asset prices. The test result was that the GSE was not semi-strong efficient.

Based on the findings of the study the following recommendations were proffered.

The GSE must address itself to at least three types of efficiency if it should function as an effective stock market:

**Operational efficiency.** This refers to the cost to buyers and sellers of transactions in securities on the exchange. It is desirable that the market carries out its operations at as low cost as possible.

**Allocation efficiency.** Society has a scarcity of resources and it is important that we find mechanisms which allocate those resources to where they can be most productive.

**Pricing efficiency.** It is pricing efficiency that is the focus of this study and the term EMH applies to this form of efficiency. In a pricing-efficient market the investor can expect to earn merely a risk- adjusted return from an investment as prices move instantaneously and in an unbiased manner to any news. Accurate pricing is required if individuals are going to be encouraged to invest in private enterprises

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